Lighting: Lighting Power Allowances – Area Category Method

Description
Table 1-N will be modified to include additional area categories or space types. It will also be updated to include advances in lighting technologies that have occurred since the last revisions.

Benefits
Additional area categories may include parking garages, loading docks, vestibules, and areas under overhangs and canopies. These are not currently regulated and additional energy savings will be achieved by including them. The change is estimated to save 10% energy for a number of existing applications. The new standard for exterior and non-conditioned spaces like garages can expect benefits of at least 10% energy savings.

Environmental Impact
There is no negative environmental impact associated with this change.

Type of Change
This is a modification to the existing prescriptive lighting requirements in §146, Table 1-M.

Measure Availability and Cost
This will require research. It is generally believed that lighting for garages tends to be relatively efficient already, but canopy lighting standards will probably reduce cost by imposing LPD limits.

Useful Life, Persistence and Maintenance
No significant change to current practices.

Performance Verification
There are no performance verification requirements.

Cost Effectiveness
These measures will be shown to be cost effective in subsequent tasks. Reduced lighting power may increase lighting equipment costs slightly, but these will be more than offset by energy savings. LPD values from 90.1-1999, LPD models as contained in the IESNA technical papers from the 90.1 committee, and modeling by CEC Staff and others will be needed to ensure that the LPD values are reasonable.

Analysis Tools
No additional calculation methods or tools are needed.

Relationship to Other Measures
The area category lighting power allowances will be made consistent with the whole building method and with the tailored method.

Bibliography and Other Research
The *Advanced Lighting Guidelines* models demonstrate significant potential reductions in canopy lighting power if proper lighting methods are employed. The models used to determine the IESNA lighting power allowances are documented at www.IESNA.org.